

## GIAMPAOLO MORETTI

Giampaolo Moretti, Emeritus Professor at the University of Perugia, Fellow of the Accademia Nazionale Italiana di Entomologia and Fellow of the Unione Zoologica Italiana, died in Milano on 9th April 1997, aged 86 years.

Moretti was born in Milano 25th November 1910. He graduated in Natural Sciences at the University of Milano in 1935, and stayed on there, teaching and researching, until 1945. He then taught Zoology, Parasitology and Hydrobiology at the University of Camerino until 1953. His research was now centred on limnology, and he was the first person in Italy to pay particular attention to lotic waters and their bioindicators. Some of the students from these days stayed in his research group throughout his life.

In 1953 Moretti was appointed Professor of Hydrobiology and Pisciculture in the University of Perugia. He founded and became Director of the G.B.Grassi Hydrobiological Station at Monte del Lago on Lake Trasimeno. In 1955 he became full Professor of Hydrobiology. Here, in 1957, his approval of the proposal to divert four streams into the lake was crucial in preventing it from drying up. In 1960 he founded the Rivista di Idrobiologia, which is the only University journal in this field. His appointment as Director of the Institute of Zoology in 1964 was vital to the development of the Faculty of Sciences so that today the University of Perugia offers nine courses in Zoology and eight in Ecology.

Moretti first collected Trichoptera in the Alps from 1932 to 1934 and published his results in collaboration with Navás and Mosely. His lifelong enthusiasm for Trichoptera was passed on to many students and co-workers. He collected in all regions of Italy, as well as in the islands, and classified the collections in several Italian museums. His collection in the Institute of Zoology at the University of Perugia comprises more than 65,000 specimens of all stages of Trichoptera. Today, there are 368 species and 30 subspecies of Trichoptera recorded from Italy, of which 31 species and 15 subspecies were described by Moretti. He is the author of 330 scientific papers, and there are still more in the pipeline. Work will continue in his research group, inspired by his leadership.

Moretti took part in all eight International Symposia on Trichoptera, and had planned to attend the 9th Symposium in Chiang Mai next year. His entourage of co-workers from Perugia was normally the largest group from any one institution. The 3rd Symposium in 1980, in the beautiful ancient city of Perugia, was indeed memorable for Moretti's enthusiasm and hospitality. In a farewell speech of thanks, Ian Crichton said, on behalf of all participants:

'Umbria è il cuore verde d'Italia, e il Professore Moretti e il suo Istituto sono il cuore vivente dei tricotteri d'Italia.'

Right up to the end of his life Moretti continued to teach and supervise students; his scientific curiosity and passion for research were such that he was still working in the Institute two days before going into hospital. Moretti's humanity and cultural and scientific gifts will continue to inspire his co-workers and all who had the good fortune to know him.

F.Cianficconi & M.I.Crichton



G.P. Moretti with his Italian group at Lake Itasca, 12 July 1995

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# DESCRIPTION OF *HELICOPSYCHE GIBONI* SP.N. FROM MADAGASCAR (TRICHOPTERA: HELICOPSYCHIDAE)

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**Abstract.** With the description of *Helicopsyche giboni* sp.n., the family Helicopsychidae is for the first time recorded from Madagascar. The species display a certain relationship with the Seychellean *Helicopsyche* within the Seychelles-East Africa species group.

**Introduction.** Ten *Helicopsyche* species have so far been described from the African mainland where all but one are restricted to mountainous areas in Tanzania (Johanson 1993). *Helicopsyche marlieri* Jacquemart 1957 is known from the Ruwenzori Mountains in Zaire (Johanson 1995). Two *Helicopsyche* species are described from Mahé Island in the Seychelles (Marlier & Malicky 1979). With this record the genus is also reported from Madagascar. The holotype of *Helicopsyche giboni* sp.n. is mounted in Canada balsam. The right wings were stained with Eosine Red to expose more clearly the venation. Terminology follows Johanson (1993). The types are deposited in O.R.S.T.O.M., Paris.

## *Helicopsyche giboni* sp.n. (Figs. 1-10)

**Type material:** Holotype 1♂, paratype 1♂ (coll. ORSTOM Paris): Madagascar, Mangoro Basin, Ankerana River, 1 km d'Antsily, 48°07,32'E, 19°00,00'S, St07-12 (LRSAE leg.).

**Diagnostic characters:** Male fore wings with media and cubitus, forming a groove basally with long longitudinally oriented setae and distally with short transversely oriented setae. Abdominal reticulation absent. Genitalia with 9th segment narrow in lateral view; superior appendage originates from basal 10th tergum; gonocoxite simple, slender and distally strongly bent dorsad; phallus with two pairs of sclerotized processes.

**Etymology:** Named after Dr. F.-M. Gibon in recognition of his contribution to the understanding of the African Trichoptera fauna.

**Description:** Male (N=2): Maxillary palps two-segmented, the basal segment slightly shorter than the distal one, basally with three strong setae (Fig.1). Cephalic warts well developed, subcircular and flat. Inter- and post-antennal warts present. Eye ommatrichia present. Antenna about as long as fore wing and with cylindrical flagellomeres. Spurs 224; fore leg posterior spur shorter than anterior spur. Pronotum with one pair of setal warts. Mesonotum, mesoscutellum and metascutellum with a pair of setal warts. Wings (Figs.2,3,4): Fore wing length 2,9 mm; stigma absent; apex ellipsoid; bifurcation of R2+3 distally on Dc; R5 absent; crossvein R-M on line with crossvein R3-R4; M2 absent; fork 5 absent. M- and Cu-veins strongly modified forming a groove (Figs.2,3). A brush of long, blackish setae originates basally and runs distad till about midway in the groove; a long row of short setae runs from about midway to the distal part of the groove; the median part of the groove has smooth setae along the anterior margin. Hind wing length 2,4 mm; stigma absent; strongly sigmoid anterior margin; curved hamuli present distally on the basal anterior margin; a slightly stronger single seta is present at the distant apex of the basal part. Forks 1,2,3 and 5 absent; a false fork 5 is formed by Cu1 and crossvein m-Cu1; A1 and A2 well developed. Abdominal reticulation absent on all segments. 6th sternal process well developed (Fig.5), pointed in ventral view. Genitalia (Figs.6-10): 9th segment in lateral view with anterior pleural margin medially slightly concave and dorsally slightly pointed anteriorly (Fig.6); lateral apodeme tapers anteriorly, weak (Fig.6). Tergite 9 with anterior margin concave, posterior margin straight (Fig.7). Sternite 9 narrow, apparently with only anterior marginal apodeme present (Fig.8). Superior appendage club-shaped in lateral view (Fig.6) and hook-shaped in dorsal view (Fig.7); originates basally on 10th tergum. Gonocoxite simple, parallel sided (Fig.6); in lateral view, with basal part straight, oriented posteriorly and with short setae on ventral margin; median part strongly bent dorsad, with long setae on posterior margin of the angle; distal part

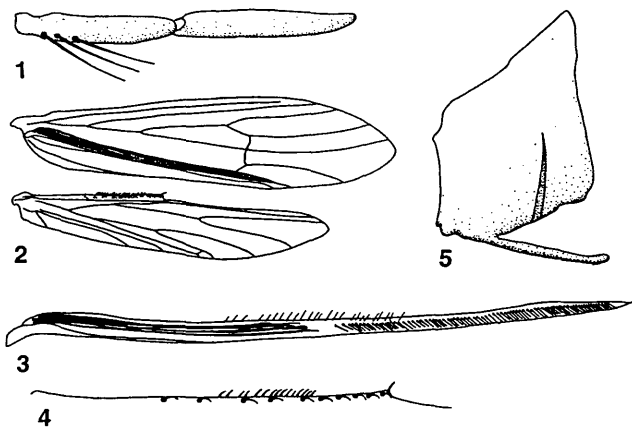
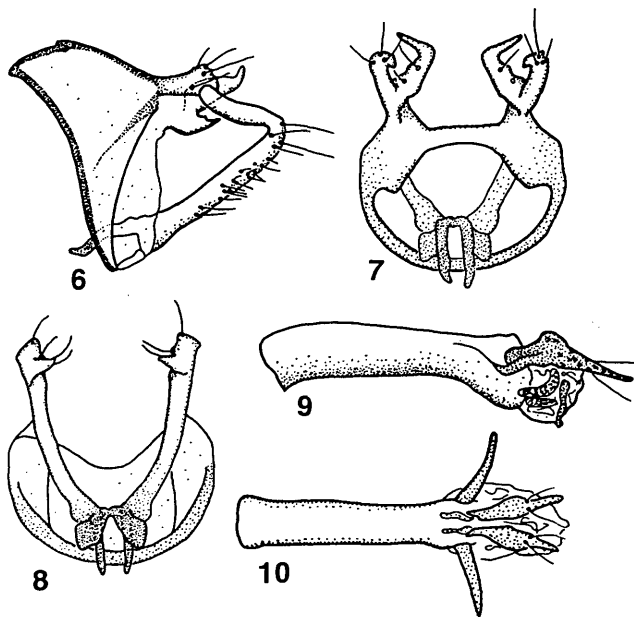


Fig.1-5: *Helicopsyche giboni* sp.n.(male): 1..Maxillary palp lateral, 2..right fore and hind wings, 3..region of media and cubitus, magnified, 4..basal part of hind wing costa, magnified, 5..abdominal 6th sternite lateral.



Figs.6-10: *Helicopsyche giboni* sp.n.(male): 6..Genitalia lateral, 7..dorsal, 8..ventral, 9..phallus lateral, 10..phallus dorsal.

substraight and rounded, with a mesad oriented, trianguloid, pointed process near apex (Figs.6,8). Gonocoxite, dorsal and ventral view (Figs.7,8) slightly diverging. Basal plate with a dorsal pair of parallel processes running antieriad and a ventral pair of subtrianguloid diverging processes (Figs.7,8). 10th tergum divides into a pair of well separated, bifurcated sub-branches (Fig.6). Dorsal sub-branch about twice the length of the superior appendage; in dorsal view posteromesad oriented and medially strongly bent laterad forming a right angle; pointed and with two laterally oriented setae on basal part (Fig.7); in lateral view distally slightly curved dorsad (Fig.6). Ventral sub-branch in lateral view short and with a rounded ventral and toothed dorsal margin (Fig.6). Phallus (Figs.9,10) substraight in lateral view and with two pairs of sclerotized processes which are large, arrow-shaped, laterally with small microtrichia and a dorsal pair of long setae.

Phylogenetic relationships. Johanson & Willassen (in press) concluded that the African *Helicopsyche* formed a monophyletic group, and that the Seychellean and East African species probably were sister groups. *H.giboni* sp.n. belongs to the East Africa-Seychelles species group based on the following synapomorphies: Anterior wing M2 reduced. Anterior wing without fork 5. Posterior wing Cul undivided. Genitalic 9th pleurite without

longitudinal apodeme. Genitalia with superior appendage originating dorsolaterally on segment 9. The following synapomorphies are shared with the Seychellean *H.palpalis* Ulmer 1910 and *H.kantilali* Marlier & Malicky 1979: Eye ommatrichia well developed. Anterior wing R5 reduced. Anterior wing apically ellipsoid. Posterior wing without fork 1. Abdominal reticulation absent. Only flattened laterally sited postantennal warts and presence of a phallus with sclerotized processes covered by microtrichia indicate a closer relationship between *H.giboni* sp.n. and the East African *Helicopsyche*. Thus, present available evidence indicates that *H.giboni* sp.n. forms a monophyletic group together with the Seychellean *Helicopsyche*. This group again is the sister group to the East African *Helicopsyche*.

A second species is known to exist in Madagascar (Gibon, pers.comm.). Examination of this species shows that it differs from *H.giboni* sp.n. in several wing and genitalic characters. The species will probably be described by J.Oláh.

Only males are known of *H.giboni* sp.n. The discovery of the female and larva will probably give further valuable information in the understanding of the history of the Madagascar *Helicopsyche* fauna.

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